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Mineral Industry Surveys

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CHROMIUM IN APRIL 2006

On the basis of gross weight, consumption of chromium ferroalloys and metal in April 2006 increased by 5% compared with revised consumption in March 2006, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of chromium materials in April 2006, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of April 2006, and U.S. foreign trade data for selected chromium-containing materials in March 2006.

Update

The Defense National Stockpile Center (DNSC) announced that about 307.9 metric tons (t) of chromium metal was sold in May, exhausting its Fiscal Year 2006 Annual Materials Plan quantity. DNSC announced the sale of 9,150 t of ferrochromium (3,570 t of high-carbon ferrochromium and 5,580 t of low-carbon ferrochromium) in May at a value of $10.2 million or $0.505 per pound gross weight (Defense National Stockpile Center, 2006a, b).

References Cited

Defense National Stockpile Center, 2006a, Stockpile accepts chromium metal bids (correction): Defense National Stockpile Center, News Release DNSC-06-2767A, May 12, 2 p.

Defense National Stockpile Center, 2006b, Stockpile announces ferrochromium sales for May 2006: Defense National Stockpile Center, News Release DNSC-06-2771, June 5, 1 p.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS[1]

(Metric tons, gross weight)

	2005	2006			
	January-December[2]	February	March	April	January-April[2]
Production:					
Stainless steel production[3]	2,240,000	200,000	223,000	219,000	855,000 [4]
Components of U.S. supply:					
Stainless steel scrap receipts	731,000	58,000	57,800	NA	167,000 [5]
Stainless steel scrap consumption	1,060,000	81,400	84,800	NA	244,000 [5]
Imports for consumption:					
Chromite ore	165,000	20,100	3,470	NA	25,500 [5]
Ferrochromium:					
More than 4% carbon	398,000	28,200	18,400	NA	74,500 [5]
More than 0.5%, but not more than 3% carbon	3,530	--	--	NA	-- [5]
Not more than 0.5% carbon	43,000	1,700	1,730	NA	6,160 [5]
Ferrochromium silicon	33,700	2,150	1,160	NA	8,000 [5]
Total ferroalloy imports	478,000	32,100	21,300	NA	88,700 [5]
Chromium metal[6]	11,000	779	975	NA	2,320 [5]
Stainless steel	770,000	64,700	69,700	NA	198,000 [5]
Stainless steel scrap	111,000	10,300	10,900	NA	30,700 [5]
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	417,000	34,100 [r]	35,300 [r]	37,000	144,000
Exports:					
Chromite ore	42,600	1,830	618	NA	2,910 [5]
Chromium ferroalloys:					
High-carbon ferrochromium	30,700	603	494	NA	1,740 [5]
Low-carbon ferrochromium	5,460	129	239	NA	826 [5]
Ferrochromium silicon	147	7	(7)	NA	7 [5]
Total ferroalloy exports	36,300	739	733	NA	2,570 [5]
Chromium metal	1,020	85	140	NA	295 [5]
Stainless steel	371,000	36,400	49,800	NA	118,000 [5]
Stainless steel scrap	585,000	39,400	36,000	NA	130,000 [5]
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	XX	12,700	13,900 [r]	12,200	XX
Government stockpile:					
Chromium ferroalloys	XX	474,000	421,000	420,000	XX
Chromium metal	XX	5,590	5,590	5,590	XX

[r]Revised. NA Not available. XX Not applicable. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

[4]Includes revised data that is not broken out by specific month.

[5]Includes January to March data; April data not available.

[6]Includes waste and scrap and other.

[7]Less than ½ unit.

TABLE 2
U.S. REPORTED CONSUMPTION AND STOCKS
OF CHROMIUM PRODUCTS IN 2006[1, 2]

(Metric tons, gross weight unless otherwise noted)

	March	April	January-April[3]
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	295	289	1,230
High-strength low-alloy steel	468 r	523	2,180
Stainless and heat-resisting steel	30,500 r	32,300	124,000
Full alloy steel	1,850	1,560	6,650
Electrical steel	W	W	382
Tool steel	402	421	1,630
Unspecified steel	W	W	W
Cast irons	W	W	W
Superalloys	879 r	907	3,560
Other alloys[4]	49 r	68	221
Total	35,300 r	37,000	144,000
Total, chromium content	20,700 r	21,700	84,000
Consumption by material:			
Low-carbon ferrochromium	1,870 r	1,910	7,380
High-carbon ferrochromium	30,000 r	31,400	122,000
Ferrochromium silicon	2,920 r	3,150	11,900
Chromium metal	468 r	518	1,940
Chromite ore	W	W	W
Chromium-aluminum alloy	23	24	99
Other chromium materials	W	W	W
Total	35,300 r	37,000	144,000
Total, chromium content	20,700 r	21,700	84,000
Consumer stocks:			
Low-carbon ferrochromium	1,970 r	1,970	XX
High-carbon ferrochromium	10,700 r	9,030	XX
Ferrochromium silicon	947 r	938	XX
Chromium metal	237 r	195	XX
Chromite ore	W	W	XX
Chromium-aluminum alloy	W	W	XX
Other chromium materials	15 r	18	XX
Total	13,900 r	12,200	XX
Total, chromium content	8,340 r	7,290	XX

rRevised. W Withheld to avoid disclosing company proprietary data; included in "Total."
XX Not applicable.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes estimates.
[3]May include revised data.
[4]Includes welding and alloy hard-facing rods and materials; wear- and corrosion-resistant alloys; and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY OF
CHROMIUM MATERIALS[1, 2]

(Metric tons)

Period	Chromium ferroalloys		Chromium metal
	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2005:			
April	359,000	187,000	6,190
May	359,000	187,000	6,190
June	331,000	182,000	6,190
July	328,000	180,000	6,190
August	324,000	187,000 [3]	6,190
September	327,000 [3]	176,000	6,210 [3]
October	323,000	175,000	6,190
November	320,000	174,000	6,190
December	318,000	171,000	6,190
2006:			
January	312,000	169,000	6,190
February	308,000	166,000	5,590
March	276,000	145,000	5,590
April	275,000	145,000	5,590

[1]Data are rounded to no more than three significant digits.

[2]These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract, however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specifications and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

[3]The increase resulted from the reclassification of physical inventory from committed to uncommitted. It did not result from the addition of chromium materials to the stockpile.

Source: Defense National Stockpile Center.

TABLE 4

U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL[1]

Period	Chromite ore		Chromium ferroalloys[2]			Chromium metal[3]	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2005:							
March	7,910	$1,310	3,050	1,850	$4,070	66	$983
April	6,930	1,820	686	419	913	85	1,580
May	5,040	923	653	402	804	64	1,190
June	516	190	776	486	1,010	91	1,520
July	1,670	697	24,800	16,600	23,800	51	781
August	6,060	1,420	584	356	789	130	1,560
September	7,760	1,320	577	356	680	115	1,940
October	1,320	600	577	355	828	39	1,410
November	835	435	1,310	877	1,490	120	2,120
December	515	203	671	408	923	125	1,930
January-December	42,600	9,940	36,300	23,700	38,900	1,020	16,900
2006:							
January	462	199	1,100	676	1,300	69	1,600
February	1,830	344	739	447	893	85	2,100
March	618	285	733	447	936	140	2,350
January-March	2,910	827	2,570	1,570	3,130	295	6,050

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

[3]Includes chromium metal waste and scrap and unwrought powders.

Source: U.S. Census Bureau.

TABLE 5

U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL[1]

(Metric tons)

	2005	2006			
	January-December[2]	January	February	March	January-March
Chromite ore:					
Not more than 40%:					
Gross weight	36	--	--	--	--
Chromic oxide content	11	--	--	--	--
More than 40% but less than 46% chromic oxide:					
Gross weight	29,700	233	72	145	450
Chromic oxide content	13,700	106	32	66	204
46% or more chromic oxide:					
Gross weight	135,000	1,740	20,000	3,330	25,100
Chromic oxide content	63,600	808	14,800	1,550	17,200
Total, all grades:					
Gross weight	165,000	1,970	20,100	3,470	25,500
Chromic oxide content	77,300	914	14,800	1,610	17,400
Ferrochromium:					
Low-carbon:[3]					
Not more than 0.5%:					
Gross weight	43,000	2,740	1,700	1,730	6,160
Chromium content	29,300	1,880	1,190	1,210	4,280
More than 0.5% but not more than 3%:					
Gross weight	3,530	--	--	--	--
Chromium content	2,300	--	--	--	--
Total, low-carbon:					
Gross weight	46,600	2,740	1,700	1,730	6,160
Chromium content	31,600	1,880	1,190	1,210	4,280
High-carbon:[4]					
Gross weight	398,000	27,900	28,200	18,400	74,500
Chromium content	232,000	18,400	18,100	9,750	46,200
Total, all grades:					
Gross weight	444,000	30,600	29,900	20,200	80,700
Chromium content	264,000	20,300	19,300	11,000	50,500
Chromium metal:					
Unwrought powders	1,060	103	94	67	265
Waste and scrap	63	--	17	6	23
Other than waste and scrap and unwrought powders	9,830	458	668	902	2,030
Total, all grades	11,000	562	779	975	2,320

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Ferrochromium containing not more than 3% carbon.

[4]Ferrrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2006,
BY GRADE AND BY COUNTRY[1]

Grade and country	March			January-March[2]		
	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)
High-carbon ferrochromium:[4]						
Kazakhstan	38	26	$54	32,000	22,200	$23,800
Russia	3,450	2,290	2,290	12,300	7,980	7,420
South Africa	14,700	7,310	7,460	18,700	9,240	9,400
Sweden	200	133	217	400	267	435
Tajikistan	2	2	3	2	2	3
Zimbabwe	--	--	--	11,000	6,490	6,670
Total	18,400	9,750	10,000	74,500	46,200	47,800
Low-carbon ferrochromium:[5]						
Not more than 0.5% carbon:						
Brazil	--	--	--	19	14	47
China	60	40	110	280	185	453
Germany	870	607	1,900	1,490	1,040	3,310
Japan	317	218	902	737	511	2,180
Kazakhstan	--	--	--	1,080	749	1,410
Mexico	--	--	--	20	13	65
Russia	479	340	736	2,520	1,750	3,530
Sweden	--	--	--	19	14	68
Total	1,730	1,210	3,640	6,160	4,280	11,100
All grades:						
Brazil	--	--	--	19	14	47
China	60	40	110	280	185	453
Germany	870	607	1,900	1,490	1,040	3,310
Japan	317	218	902	737	511	2,180
Kazakhstan	38	26	54	33,100	23,000	25,300
Mexico	--	--	--	20	13	65
Russia	3,930	2,630	3,030	14,800	9,730	11,000
South Africa	14,700	7,310	7,460	18,700	9,240	9,400
Sweden	200	133	217	419	281	503
Tajikistan	2	2	3	2	2	3
Zimbabwe	--	--	--	11,000	6,490	6,670
Total	20,200	11,000	13,700	80,700	50,500	58,800

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Ferrochromium containing more than 4% carbon.

[5]Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2006,
BY GRADE AND BY COUNTRY[1]

Grade and country	March		January-March[2]	
	Gross weight (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Value[3] (thousands)
Unwrought powders:				
China	12	$243	100	$820
France	1	10	1	10
Germany	7	34	22	264
Japan	22	1,110	65	3,100
Netherlands	--	--	6	31
Russia	25	326	52	742
Spain	--	--	19	96
United Kingdom	(4)	56	(4)	121
Total	67	1,780	265	5,190
Waste and scrap:				
Germany	3	80	3	80
Japan	--	--	10	150
Singapore	4	52	10	175
Taiwan	--	--	1	14
Total	6	132	23	420
Other than waste and scrap and unwrought powders:				
Austria	--	--	(4)	8
Canada	--	--	(4)	3
China	177	1,270	517	3,170
France	328	2,990	666	6,060
Germany	5	30	19	271
Russia	214	1,170	414	2,850
Spain	23	111	23	111
Switzerland	--	--	(4)	4
United Kingdom	154	1,150	390	2,880
Total	902	6,710	2,030	15,300
All grades:				
Austria	--	--	(4)	8
Canada	--	--	(4)	3
China	189	1,520	617	3,990
France	329	3,000	667	6,070
Germany	15	144	43	615
Japan	22	1,110	75	3,260
Netherlands	--	--	6	31
Russia	240	1,500	466	3,590
Singapore	4	52	10	175
Spain	23	111	41	207
Switzerland	--	--	(4)	4
Taiwan	--	--	1	14
United Kingdom	154	1,200	390	3,000
Total	975	8,620	2,320	21,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 8

U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2006[1]

Stainless steel product	March		January-March	
	Gross weight (metric tons)	Value[2] (thousands)	Gross weight (metric tons)	Value[2] (thousands)
Exports:				
Ingot	720	$3,810	2070	$11,000
Flat-rolled (width > 600 mm)	11,900	33,600	39800	106000
Flat-rolled (width < 600 mm)	8,560	34,200	24300	87500
Bars and rods in irregular coils	726	3,550	1990	9100
Other bars and rods	3,100	17,500	7420	46200
Wire	564	4,100	1700	12400
Tubes, pipes, hollow profiles	24,100	41,100	40700	88200
Total	49,800	138,000	118,000	360,000
Stainless steel scrap	36,000	47,500	130,000	169,000
Grand total	85,700	185,000	248,000	529,000
Imports:				
Ingot	11,600	32,500	29,700	82,800
Flat-rolled (width > 600 mm)	32,000	76,300	92,700	221,000
Flat-rolled (width < 600 mm)	3,960	14,500	10,600	40,300
Bars and rods in irregular coils	2,360	6,650	7,250	20,500
Other bars and rods	7,720	28,800	21,500	82,800
Wire	3,870	16,100	10,600	45,600
Tubes, pipes, hollow profiles	8,140	48,900	25,200	152,000
Total	69,700	224,000	198,000	645,000
Stainless steel scrap	10,900	11,900	30,700	33,800
Grand total	80,600	236,000	228,000	679,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.